

tion of the motion selector button **110** on the mobile device **100** is illustrative and is subject to design choice. On the left, the mobile device **100** is shown in various positions intended to illustrate the tracking of motion. Specifically, the tracked motion traces out the words “Hi John”. The right side of FIG. **4** illustrates a rendering **410** of the sensed and tracked motion after it has been scaled to fit the mobile device display **120**.

[0038] Scaling a free form image involves a two step process. First, the motion capture application needs to be informed of the intended start and stop points of the motion tracking input session. The motion capture application should also be aware of sub-sessions in which to start and stop motion tracking. One way to accomplish this is to use the motion selector button **110** differently for a whole input session and an input sub-session. For instance, double clicking the motion selector button **110** (as one would a computer mouse) can indicate the beginning of an input session. This informs the motion capture application to be ready for input. Actual free-form input can then be accepted between single clicks of the motion selector button **110** or during periods when the motion selector button **110** is held down. The user will double click the motion selector button **110** again to indicate that the entire session is complete.

[0039] Only after the entire session is complete will the motion capture application scale the captured motion of the sub-sessions. This is the second part of the process. Scaling can be accomplished by apportioning an equal amount of screen space for each sub-session. The user can also select whether the rendered image should be displayed in a portrait or landscape perspective. The user can further specify whether the sub-session input should be presented in a top to bottom format or a left to right format. In addition, the user can be given the ability to move each sub-session image rendering to another location within the display similar to re-arranging the pieces of a puzzle.

[0040] FIG. **5** illustrates an example that shows the mobile device being moved around to form an image in character recognition mode. On the left, the mobile device **100** is shown in various positions intended to illustrate the tracking of motion. Specifically, the tracked motion traces out the words “Hi John”. The right side of FIG. **5** illustrates a rendering **510** of the sensed and tracked motion after it has been processed in character recognition mode. Each character has been recognized and input into a reserved grid space on the mobile device display **120**. Upon completion of text or character entry, the user can launch any one of a number of resident messaging or text applications that can use the recognized characters as input.

[0041] The motion capture application can also be implemented as a feature within the text or messaging applications. In this implementation, the user can first launch a text or messaging application and select “motion capture” as the mechanism of input.

[0042] FIG. **6** is a block diagram of an exemplary portable mobile communications device and companion elongated accessory according to an embodiment of the present invention. Up until now, the description has focused on having the motion sensor co-located within the mobile device **100**. Another alternative is to provide an accessory **620** to the mobile device **100** that contains the motion sensor **640**. The mobile device **100** and the motion sensor accessory **620** can be made communicable via a short range wireless RF link such as Bluetooth™. This embodiment is similar to the

description and processing of described in FIGS. **1-5**. In this case, a Bluetooth™ module **610** is included within the mobile device **100**. A second Bluetooth™ module **630** is included within the motion sensor accessory **620** making the two devices communicable with one another when successfully paired. The motion sensor accessory **620** further includes a processor **650** coupled with the motion sensor **640** and the Bluetooth™ module **630**. A motion selector button **660** is also included.

[0043] The motion sensor accessory **620** will typically be elongated and can be shaped in the form of a pen. The motion selector button **660** can be placed anywhere on the housing of the motion sensor accessory **620**. For purposes of illustration, the motion selector button **660** is shown on the lower portion of the motion sensor accessory **620**. In this location it can be more easily and naturally actuated by the user. Once paired with the mobile device **100** and actuated, the motion sensor accessory **620** will operate as previously described with respect to collecting and forwarding data pertaining to two-dimensional tracked motion. This time the two-dimensional plane of interest will be perpendicular to the longitudinal axis of the motion sensor accessory **620**.

[0044] Collected data will be forwarded to the mobile device via the respective Bluetooth™ modules on a real-time basis. The motion sensor accessory **620** can also be set to a character recognition mode in which the motion sensor accessory **620** performs all of the processing necessary to match the input to a character in a set of stored characters. While not specifically illustrated, a database of reference characters can be included within the motion sensor accessory **620**. In this mode, the motion sensor accessory **620** will forward recognized characters to the mobile device **100** via the respective Bluetooth™ modules **610**, **630**. This input can be applied directly to a text or messaging application running on the mobile device **100**.

[0045] The accessory **620** to the mobile device **100** that contains the motion sensor **640** can also be implemented using a wired cable connection such as USB, RS232, or the like **670**. In this instance, the accessory **620** would contain the motion sensor **640** and all data it generates would be passed directly to the mobile device **100** directly for processing. The accessory **620** would not need to include a Bluetooth™ module since the data would be passed over the cable **670**.

[0046] As will be appreciated by one of skill in the art, the present invention may be embodied as a method, system, or computer program product. Accordingly, the present invention may take the form of an entirely hardware embodiment, an entirely software embodiment (including firmware, resident software, micro-code, etc.) or an embodiment combining software and hardware aspects that may all generally be referred to herein as a “circuit,” “module” or “system.” Furthermore, the present invention may take the form of a computer program product on a computer-usable storage medium having computer-usable program code embodied in the medium.

[0047] Any suitable computer readable medium may be utilized. The computer-usable or computer-readable medium may be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium. More specific examples (a non-exhaustive list) of the computer-readable medium would include the following: an electrical connection having one or more wires, a portable computer diskette, a hard disk, a random access